Remarks

Claims 1, 4, 7-12, 23 and 28-33 are before the Examiner. Claims 1, 4, 23, 32 and 33 have been amended to correct a typographical error. Claims 11 and 29 have been amended to remove some of the pharmaceutically active agents listed. Claims 4, 9 and 30 have been amended to include the term "carboxyvinyl polymer" rather than "carbopol". Support for the new claims and claim amendments can be found throughout the application, including the claims as originally filed. Importantly, no new matter has been added to the claims.

The amendments to the claims should not be construed to be an acquiescence to any of the rejections. The cancellation of and amendments to the claims are being made solely to expedite the prosecution of the above-identified application. The Applicant reserves the right to further prosecute the same or similar claims in subsequent patent applications claiming the benefit of priority to the instant application.

The Examiner's remarks in the Office Action are addressed below.

Claim Objection

The Examiner objected to claims 9 and 30, on the grounds that the trademark "carbopol" is indefinite. Claims 4, 9 and 30 have been amended to refer to the generic term "carboxyvinyl polymer" rather than "carbopol". A copy of Bulletin 3: Nomenclature and Chemistry, published by Noveon™, is attached hereto which outlines common generic terms used for Carbopol™, such as "carboxyvinyl polymer".

Claim Rejections Under U.S.C. § 103(a)

Claims 1, 4, 7-12, 23 and 28-33 stand rejected under 35 U.S.C. § 103(a) based on the Examiner's contention that they are obvious over Guley et al., (U.S. Patent No. 4,309,405) in view of Jain et al., (U.S. Patent No. 4,610,870). The Applicants respectfully traverse this rejection. The Examiner asserts that Guley et al. teaches a composition comprising both water soluble and water insoluble polymers, in particular, plural water soluble polymers including hydroxypropyl methyl cellulose (HPMC) and hydroxypropyl cellulose (HPC) and plural water-soluble polymers including ethylcellulose (EC) and carboxyvinyl cellulose. The Examiner also

asserts that Jain et al. teaches the equivalence of HPC and hydroxyethyl cellulose (HEC) in the core.

The Applicants respectfully disagree with the Examiner.

Guley et al. relates to a sustained release composition with a core formulation that comprises "about 20% to about 70% by weight of the core of the drug or drugs for which sustained release is desired, and about 30% to about 72% by weight of the core of the water soluble polymer(s) and the water insoluble polymer mixture" (Column 2, lines 27-31). The water soluble polymer can be at least one of HPMC and HPC (Column 2, lines 40-43) and the water insoluble polymer mixture is EC or EC and at least one of carboxyvinyl polymer, hydroxypropyl methylcellulose phthalate (HPMCP) and HPC (Column 2, lines 45-50). Guley et al. does not specifically teach or suggest the use of a combination of HPMC and HEC.

Jain et al. relates to a controlled release formulation containing a core portion. The core portion contains a medicament and one or more water-soluble or water-swellable hydrocolloid gelling agents. It is described at column 5, lines 21-35, of Jain et al. that the hydrocolloid "preferably comprise cellulose polymers which are cellulose ethers such as methyl cellulose, cellulose alkyl hydroxylates such as HPMC, HPC, HMC or HEC, cellulose alkyl carboxylates such as carboxymethyl cellulose and carboxyethyl cellulose, and alkali metal salts of cellulose alkyl carboxylates, such as sodium carboxymethyl cellulose and sodium carboxyethyl cellulose, as well as carboxypolymethylene (molecular weight 2.5 to 3.5 million). Preferred are sodium carboxymethyl cellulose, methyl cellulose, HPMC and carboxypolymethylene" (emphasis added). Jain et al. teaches that the hydrocolloid may comprise "cellulose alkyl hydroxylates such as HPMC, HPC, HMC or HEC", which means that only one of these cellulose alkyl hydroxylates is included in the core. Therefore, Jain et al. teaches away from combining more than one of the cellulose alkyl hydroxylates, which is further substantiated by the preferred embodiment of sodium carboxymethyl cellulose, methyl cellulose, HPMC and carboxypolymethylene recited. It is, therefore, respectfully submitted that one of ordinary skill in the art would not have been motivated to combine Guley et al. with Jain et al. since Guley et al. teaches a mixture of HPMC and HPC and Jain et al. teaches the use of HPMC or HPC. Consequently, one of ordinary skill in the art would not have been motivated to replace HPC of the mixture of Guley et al. with HEC based on the teachings of Jain et al.

Moreover, the Examiner asserts that Jain et al. teaches the equivalency of cellulose alkyl hydroxylates in (table) cores, in particular that of HPC and HEC (column 5, lines 21-27). It is respectfully submitted that Jain et al. does not teach the equivalency of cellulose alkyl hydroxylates. Jain et al. simply lists examples of these compounds, which does not, on its' own, teach the equivalency of these compounds.

Furthermore, Applicants' submit that cellulose derivatives are not interchangeable, for example, HPMC, HEC and EC are not interchangeable for the same purpose. This is supported by the data in the Declaration attached hereto. The amount of drug released in 1 hour is 17% for HPMC, 60% for HEC and 88% for EC. It was also observed that EC tablets broke up in 30 minutes. The time taken for 70% of the drug (i.e., $T_{70\%}$) to be released was about 9 hours for HPMC, 4 hours for HEC and 30 minutes for EC. These results clearly indicate that HPMC, HEC and EC are not interchangeable. Therefore, it is the novel combination of polymers claimed that provide the invention.

In summary, one of ordinary skill in the art would not have been motivated to combine the teachings of Guley et al. with Jain et al. to replace HPC of the mixture of HPC and HPMC with HEC. Furthermore, Jain et al. does not teach the equivalency of cellulose alkyl hydroxylates but, instead, simply lists examples of these compounds. Moreover, as stated supra, one cannot simply substitute one polymer for another since this leads to different properties of the resultant formulation. Therefore, Guley et al. and Jain et al. do not teach or suggest, either singly or in combination, the claimed invention

Based on these submissions, the Applicants respectfully request withdrawal of the rejection of the present claims.

Conclusion

In view of the above amendments and remarks, the Applicants believe that the pending claims are in condition for allowance. If a telephone conversation with Applicant's attorney would expedite prosecution of the application, the Examiner is urged to contact the undersigned.

Respectfully submitted,

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